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ABSTRACT

This document contains four papers from a symposium on research issues in human resource development (HRD). "Data for HRD Research and the 1997 Human Performance Practices Survey" (Laurie J. Bassi, George S. Benson), describes two research projects undertaken by American Society for Training and Development (ASTD): publication of the "ASTD Training Data Book" and initiation of an annual survey (the Human Performance Practices Survey) to provide reliable benchmarks for comparing training programs in business. "The Analysis of Conference Proceedings for the Academy of Human Resource Development (AHRD) 1996: A Review" (Nathalie W. van Hooff, Martin Mulder) reports on a study that described the contents and characteristics of the research studies appearing in the 1996 proceedings. Plans for an annual report on HRD to facilitate linking HRD practice with theory and research are outlined in "A Survey of Surveys on Training" (Darlene Russ-Eft). "Training and the Decade of the 1980s: Did We Spend What We Said We Were Spending?" (Ross E. Azevedo, Miles M. Smayling) examines changes that have occurred in training budgets in the following U.S. industries between 1982 and 1992: wholesale and retail trade, health services, business services, and manufacturing. (MN)

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Research Issues in HRD

Chair: Ronald L. Jacobs, Ohio State University

Data for HRD Research and the 1997 Human Performance Practices Survey

Laurie J. Bassi, American Society for Training and Development

George S. Benson, American Society for Training and Development

The Analysis of Conference Proceedings for the Academy of Human Resource Development (AHRD) 1996: A Review

Nathalie M. van Hooff, University of Twente

Martin Mulder, University of Twente

A Survey of Surveys on Training

Darlene Russ-Eft, Zenger Miller, AHRD Global 100 member

Training and the Decade of the 1980's: Did We Spend What We Said We Were Spending?

Ross E. Azevedo, University of Minnesota

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Data For HRD Research and the 1997 Human Performance Practices Survey

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ASTD has undertaken two research projects over the past year intended to improve our ability to definitively describe the field of HRD through empirical data. A review of existing data published in the ASTD Training Data Book summarizes what is known from existing training research. The 1997 Human Performance Practices Survey, the beginning of an annual ASTD data collection effort, then offers the opportunity to make a significant contribution to this body of knowledge.

The field of training and development has long struggled with an acute lack of reliable comparable data on training expenditures and practices in companies. To better serve the information needs of its various constituencies, the American Society for Training and Development (ASTD) has undertaken two important projects over the past year to first summarize existing training research, and then begin collecting key training data on a regular basis.

The first project involved a comprehensive review of existing data completed for the recently published *ASTD Training Data Book* (1996). Despite the growing and strategic role that employer-provided training plays in business, it has heretofore been difficult to gain a comprehensive view of the nature and magnitude of this investment. The *ASTD Training Data Book* addressed this situation by summarizing in one concise source what is known about the formal training provided by private-sector employees in the United States.

ASTD's second major initiative is a comprehensive survey of American business to be conducted in Spring 1997. The 1997 Human Performance Practices Survey is intended to provide reliable benchmarks for comparing training programs in business and become the foundation for a permanent database to be updated annually.

Sources of Existing Training Data

The *ASTD Training Data Book* was written after a comprehensive literature review and investigation of past public and private research in worker training and HRD. Following this review, sources of data were categorized as either "major data sources" or "special interest studies." Please refer to Table 1 for a complete listing by topic area of the data resources used in the *ASTD Training Data Book*.

The major data sources are generally the result of government sponsored surveys. These surveys are based in broad, representative samples of firms or establishments, and have very high response rates. Because their results can be generalized to the overall population of U.S. firms or establishments, these surveys are typically the most reliable sources of data.

The second, less reliable type of data comes from "special interest" surveys, generally conducted by private associations, trade groups, or other organizations with a particular interest in one or more training topics. These studies tend to provide more detailed information on specific training topics than do the large, government-sponsored surveys. They also tend to be based on smaller, less representative samples of firms or establishments and to have lower response rates.

Therefore, it may not be possible to generalize the results of such studies beyond the small number of organizations, or type of organizations, represented in each study.

The major data sources for the *ASTD Training Data Book* include the 1993 and 1995 Bureau of Labor Statistics (BLS) Employer-Provided Training Surveys, the 1994-1995 National Household Education Survey conducted by the Department of Education, the 1983 and 1991 "How Workers Get Their Training" supplements to the U.S. Census Current Population Survey, the 1994 National Employer Survey by the National Center of Educational Quality of the Workforce, and the National Organizations Study conducted by the University of Illinois Research Laboratory.

The special interest studies included in the *ASTD Training Data Book* consist of several American Management Association studies, the Hewitt Associates 1993 study "Employee Benefits: Education Reimbursement Plans," Lakewood Research's annual "Industry Report," several studies by the Olsten Corporation, the "1996 Computer-Based Training Report" from SB Communications, the 1995 "Emerging Technologies for Human Performance Improvement" by the National Society for Performance Improvement, and Teresa M. Palmer's 1990 study of investments in human capital by the Fortune 500.

Also included in the *ASTD Training Data Book* review were data from several unique ASTD research efforts. These include the ASTD Benchmarking Forum, an annual survey of sixty training organizations in Fortune 500 companies conducted since 1991, and the ASTD National HRD Executive Survey, a quarterly survey of 300 high-level training practitioners on various topics.

Challenges in Summarizing Existing Training Data

As the above list illustrates, the information summarized in the *ASTD Training Data Book* was drawn from a large number of disparate sources. These sources are of variable quality. High quality data on employer-provided training have historically been difficult to obtain for a number of reasons. First and foremost, accounting systems have not been set up to document the level of investment that firms are making in training. Second, in part because of the deficiencies in accounting for training, relatively few government-sponsored surveys have been conducted on the topic. High quality government surveys are also very expensive and time consuming. Third, private surveys on training generally suffer from a variety of shortcomings. Such surveys are often very narrow in focus and administered to a very small sample of firms, or to a sample that is not representative (for example, only to large firms). Unlike government-sponsored surveys, privately administered surveys typically do not enjoy a high response rate. This raises the possibility that the survey's results are subject to non-response bias because those who respond differ systematically from those who do not. In particular, special interest studies often sample companies that are predisposed to provide employee training (large firms, for example). This may lead to over-estimation of the scope of some aspects of training, such as the number of firms providing training, or the percentage of employees within a given firm which receive training.

Additional challenges arise when synthesizing data from multiple sources. Differing methodologies rarely permit comparison of firms with similar characteristics across studies. Also important is the fact that researchers have yet to settle on standard definitions for critical concepts such as what constitutes training and which costs are counted as training expenditure. Finally, there are no large-scale representative surveys which are repeated consistent intervals to provide a baseline for measuring changes over time and comparing studies from different years.

1997 ASTD Human Performance Practices Survey

The 1997 Human Performance Practices Survey is intended to address many of the limitations of existing studies. It has been designed to generate reliable and representative data on training expenditures and practices in American companies with more than 50 employees. To ensure that the response rate is as high as possible, ASTD is offering a free-of-charge training benchmarking service to all participating organizations.

ASTD will send a customized report to any firm that completes the survey, comparing its training practices to companies of like size and industry. The offer of this free service reflects ASTD's non-profit mission to collect and disseminate information for the benefit of the field, and is likely to significantly increase the number of companies involved in this data collection effort and its potential for on-going success in years to come.

Prior to developing the survey, background research was conducted to determine the viability of a large-scale benchmarking project. In a study of 800 firms in the same industries as the proposed survey, over 60% of respondents indicated that they would be "likely" to subscribe to a training benchmarking service. Since we will be providing this service free of charge, we expect that the level of interest will exceed 60%. When asked about the financial data that will comprise the core of the 1997 survey, the vast majority of all respondents indicated that "internal training expenditure" (96%), "contracted training expenditure" (93%), and the "percentage of training expenditure for various course types" (89%) were definitely or probably useful for their organization to know. More importantly, this same research confirmed that nearly three-quarters of training directors were able to accurately collect and report this type of information (69-75% depending on the type of data).

Research Questions

The 1997 Human Performance Practices Survey will investigate several related aspects of workforce development in companies including:

1. What proportion of establishments provide formal training to employees?
2. How do various measures of training expenditure vary across firms of different industries and sizes?
3. What proportion of total training expenditure is spent for various course types in firms of different industries and sizes?
4. In what types of firms are training directors predicting increases in training effort and expenditure?
5. How does training outsourcing vary across firms of different industries and sizes?
6. What do training directors view as the key issues that will impact the practices of their training organizations over the next three years?
7. What types of firms are making use of technology-based training delivery methods?
8. How does the type and extent of training vary with the organization's other HR and work practices?
9. How does the type and extent of training vary with training director's views of organizational performance in a number of key areas?

Methodology

The ASTD Human Performance Practices Survey rests on a multi-faceted research design centered on a direct response mail survey of more than 10,000 randomly-selected training directors across the United States. In addition, ASTD will permit any private employer with more than 50 employees to self-select into the survey.

Sampling Strategy. The universe for the randomly-selected portion of the study is all private establishments, excluding membership organizations, operating in the United States with 50 or more employees. An establishment is defined as a single physical location engaged in commercial activity. The initial sample was stratified to ensure adequate representation across all industry and establishment size classifications, and randomly selected from the Dun & Bradstreet Marketplace September 1996 database. Using a matrix of establishment size and industry categories, a target number of establishments was selected in each cell. To increase the number of large establishments in the final sample, larger firms were over-sampled and 100% of establishments over 2500 employees were included. Setting cell size targets and over-sampling large establishments ensures that conclusions about variations in activity across different sized establishments will be based on a significant number of companies. Resulting data will then be weighted to reflect the establishment size and industry proportions of the universe of the study.

Address Refinement. Once the initial sample of establishments was pulled from Dun & Bradstreet, telephone interviews were conducted to locate the person at each establishment most appropriate to receive the survey. Interviewers were instructed to ascertain the name, title, and phone number of the person most responsible for employee training. If no such person existed, the interviewers then obtained the name and title of the person most responsible for human resources. Sending the survey to the individual who is best qualified to provide the requested information is critical to maximizing both the response rate and the quality of the data.

The Survey. On February 3, 1997 the survey was mailed to the 10,000 training directors identified through telephone interviews. Included with the survey was a letter to introduce the "training benchmarking service." One round of follow-up calls was then placed to non-respondents after several weeks to increase participation. In the analysis, self-selected survey respondents' data will be carefully screened and analyzed to understand how they vary from the randomly selected establishments, and then used to augment the final database.

Follow-Up Research. ASTD plans to conduct follow-up research based on the results of the initial survey, including case studies of exemplary companies. It is also ASTD's intention to establish the Human Performance Practices Survey as a permanent effort to share all types of training and human performance information across companies. As companies with outstanding practices are identified through this first phase of the project, in-depth case studies will follow the quantitative portion of the survey to complete the picture of training in the United States.

Data to be Collected

The first data to be collected in the 1997 Human Performance Practices Survey consist of demographic information upon which to base comparisons of companies. These include the number of employees, the total payroll, and the industry classification. These data will provide the basis for comparisons of the data from the remainder of the survey.

The most important data collected by the 1997 Human Performance Practices Survey will be actual training expenditures in the 1996 calendar or fiscal year. Establishments will be asked for:

- internal training expenditure (direct and indirect costs)
- external or contracted training expenditure
- tuition paid to educational institutions
- percentage of training expenditure spent for various course types

The survey will show which firms are providing the most training, what type of training is being provided, and how that training is being delivered. The data will also allow comparison of firms by industry and size on a number of critical ratios including training expenditure as a percentage of payroll, and training expenditure per employee.

The survey contains a number of questions on training delivery systems and technologies. Training directors will be asked to estimate the percentage of training time by various delivery systems in comparison to instructor-led classroom training. They will also be asked which delivery technologies they plan to implement in the near future.

An important component of the 1997 Human Performance Practices Survey is establishing a baseline to compare future changes in the field of training and development. In this inaugural effort, training directors have been asked to identify which issues are impacting their firm, and to predict changes in training expenditure, training outsourcing, and the percentage of employees that receive training.

Survey respondents have also been asked to give a detailed description of their organization's work practices through a series of questions on: employee benefits, high performance work practices, training practices, and human performance management practices.

The last section of the 1997 Human Performance Practices Survey asked respondents to report on their organization's performance using indicators such as sales, profits, employee satisfaction, quality, and customer satisfaction. Ultimately, as longitudinal data becomes available in future years, the survey should prove enormously valuable in improving our understanding of the relationship among training, work practices, and performance.

How This Research Contributes to New Knowledge in HRD

Representative Sampling. The primary purpose of the Human Performance Practices Survey is to generate representative benchmarks for training expenditures and practices for all types of companies. The sampling strategy has been devised to ensure that conclusions reached about a firm of any size or industry classification will be based on a significant number of companies. This strategy will give the data the power to predict the training profile of an 'average' firm in a given industry and establishment size classification. A rich dataset with adequate representation from all industries and firm sizes will also permit the comparison of firms across categories for an overall report on training in the United States.

While the use of nationally-representative samples in training research is not new, several of the training topics covered by the Human Performance Practices Survey have not been previously included in large-scale training surveys. These include the training delivery technologies, outsourcing practices, in-house course development capabilities, and measures of organizational performance. This type of data, along with representative estimates of training expenditure and practices should provide a clearer picture of employee training and its links to other company characteristics than ever before possible.

Directly Comparable Data. The questionnaire for the Human Performance Practices Survey was intentionally designed to permit the comparison of results with other national training surveys conducted by the Bureau of Labor Statistics. The use of BLS conventions for collection data including training expenditures should permit the first-ever replication of a major government-sponsored survey. This comparison of results will act as an important test for the ability to accurately estimate training expenditures and practices in organizations. This consistent use of definitions should also encourage future researchers to adopt similar conventions in the interest of generating data that are more comparable across multiple studies.

Opportunities for Longitudinal Studies. The 1997 Human Performance Practices Survey is intended to be the beginning of an annual data collection by ASTD. The 1997 inaugural effort will provide the baseline for reliably measuring changes in training expenditure and practices in years to come. For the first time ever, the field of HRD will have a nationally-representative large-sample survey replicated at regular intervals. In addition to generating national and industry averages for key measures of employee training, the Human Performance Practices Survey will also permit the tracking of individual firms over time. Such data will be critical to any research effort on the organizational outcomes of training investment.

Table 1. Training Data Resources By Topic Area

Topics	Data Resources
Basic Structure and Operations of Training Programs	1993 / 1995 BLS Employer Provided Training Surveys 1994 National Employer Survey, National Center on the Educational Quality of the Workforce 1990-91 / 1994-95 National Household Education Survey 1991 Current Population Survey 1990-91 National Organizations Study, Univ. of Illinois 1994 Skill for Success, The Olsten Corporation 1994 / 1995 ASTD Benchmarking Forum
Training and The Individual Firm	1990-91 National Organizations Study, Univ. of Illinois 1992 Job Training Approaches and Costs in Small and Large Firms, Small Business Administration Various years, National Longitudinal Survey of Youth 1993 / 1995 BLS Employer Provided Training Surveys 1991 Current Population Survey 1994 / 1995 ASTD Benchmarking Forum 1995 Industry Report, Lakewood Research 1990 Survey of Fortune 500 Companies, Teresa M. Palmer
Who is Getting What Training	1981, 1983, 1991 Current Population Surveys Various years, National Longitudinal Survey of Youth 1994-1995 National Household Education Survey 1992 Job Training Approaches and Costs in Small and Large Firms, Small Business Administration 1990-91 National Organizations Study, Univ. of Illinois 1993 / 1995 BLS Employer Provided Training Surveys 1995 Industry Report, Lakewood Research 1990 Survey of Fortune 500 Companies, Teresa M. Palmer 1994 Survey of Basic Skills Testing and Training, American Management Association
Technology Use in Training	1994 / 1995 ASTD Benchmarking Forum 1995 Technology in the Training Department, Lakewood Research 1995 Industry Report, Lakewood Research 1996 Computer-Based Training Report, SB Communications
Supplier Issues in Training	1990-91 National Organizations Study, Univ. of Illinois 1995 BLS Employer Provided Training Survey 1994 National Employer Survey, National Center on the Educational Quality of the Workforce 1993 Community College Workforce Training Programs for Employees of Business Industry, Labor and Government, League for Innovation 1991 Community College Involvement in Contract Training and Other Economic Development Activities, National Center for Research in Vocational Education

Table 1. Training Data Resources By Topic Area, cont'd.

Topics	Data Resources
Improving Performance	1993 BLS Employer Provided Training Survey 1992 How Common is Workplace Transformation and Who Adopts It?, Paul Osterman 1992 Upgrading the U.S. Workplace: Do Reorganization, Education Help?, Laurie Bassi 1995 ASTD National HRD Executive Surveys 1990 Variable Pay: New Performance Rewards, The Conference Board 1995 Emerging Technologies For Human Performance Improvement, National Society for Performance Improvement

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The Analysis of Conference Proceedings for the Academy of Human Resource Development (AHRD) 1996: A Review¹

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The aim of this study was to describe the contents and the characteristics of research studies that appeared in the 1996 Academy of Human Performance Development (AHRD) proceedings. The study revealed that most researchers conduct studies in the field of individual development and about the development of the field of HRD itself. The focus is on: integrity (which was the theme of the conference), globalization, teams, employee development, learning-on-the-job, new technologies, transfer, evaluation, organizational change, training effectiveness, partnership research, and roles in HRD. The description of the characteristics of the studies showed that current research in HRD largely consists of case studies, and that most researchers collect qualitative data to support their conclusions. Our main suggestion is that the AHRD must encourage 'methodological appropriateness' as the primary criterion for judging methodological quality. Therefore it will have to advocate a wide range of research methodologies, including both quantitative and qualitative approaches. Because HRD is an interdisciplinary field representing different perspectives, synthesizing the research studies of the AHRD into a body of knowledge can contribute to HRD practice and research.

"Corporations are becoming one of the largest institutions for education and training", state Watkins and Bellinger (1996). Yet, their business is not education. Consequently, corporations will have to build on the knowledge and experience of HRD professionals to encourage the development of employees and the corporation. To ensure that professionals have the necessary tools to face this responsibility, the Academy of Human Resource Development (AHRD) will become increasingly important for the dissemination of information.

However, HRD, as an evolving field, is still searching for a professional definition. The field of HRD is relatively young, it has not a long tradition of research and there is not yet a substantial theoretical foundation. An interdisciplinary field such as HRD can draw heavily on knowledge and work from other fields, such as economy and psychology. Nevertheless, a mature field, has a recognized body of scientific work and literature that guides practice and provides a basis for further developing theory and research (Sleezer, Sleezer & Pace, 1996).

There is a continuing debate within the AHRD what kind of research is most appropriate to enhance the foundation of knowledge in the HRD field. This study will make two assumptions that are evident to advance the field of HRD. First, the dissemination of information should cover the broad field of HRD. The AHRD serves an integral role in moving HRD from a field of fads to a field of theory and informed practice. Second, to encourage the application of HRD research findings it is essential that there is equal attention for HRD theories, processes and practices (Mulder, 1995). The development of theory concentrates on the elaboration and testing of (new) theoretical models and theories. HRD processes are concerned with the role of HRD departments and the execution of HRD activities. HRD practices describe the experiences of HRD professionals and reflections on their own activities.

At the conference of 1996, 123 papers and 184 scholars contributed 850 pages of text with research, theories and debates. The Academy selected the papers on the following criteria: (a) a problem

¹ With thanks to Marcel v/d Klink, Wim J. Nijhof, and Jan N. Streumer.

statement and theoretical framework, (b) research questions and/or hypotheses, (c) an expressed methodology, and (d) results and conclusions. Contributions came from university professors, graduate students and consultants from the areas of HRD, business, psychology, education, economics, sociology, technology, and communication. In addition, HRD researchers and reflective practitioners from business, industry, and governments participated in the conference.

Last year, David Arnold of the University of Minnesota explored the types of research conducted by those who had papers accepted by the annual conference of the Academy of Human Resource Development (AHRD) 1994 and 1995. This gave a snapshot over those two years that reflects the state of research within the field of Human Resource Development (HRD). Toppins (1989) performed a similar review some years earlier. She examined 135 research projects or programs listed in the ASTD national academic database. Both studies showed that a large amount of studies on HRD is descriptive in nature.

In this research study we analyze the contents of the papers that are in the proceedings of the conference of the AHRD in 1996. The AHRD aims at: (a) encouraging systematic study of human resource development theories, processes, and practices, (b) dissemination of information about HRD, (c) encouraging the application of HRD research findings, and (d) provision of opportunities for social interaction among individuals with scholarly and professional interests in HRD, from multiple disciplines and from across the globe. Research papers are an important foundation for achieving the goals of the AHRD. Through this medium experts in the field of HRD exchange their knowledge and experiences in HRD.

Research Questions Two descriptive questions are leading this research in an attempt to explore the contributions of the proceedings to the goal of the AHRD of advancing the field of HRD: (a) How is the distribution of the proceedings of the AHRD 1996 in the HRD domains and which themes within these domains are addressed? and (b) What are the research characteristics of the studies described in the proceedings?

Purpose of this Study The purpose of this study is to inform HRD professionals about what is happening in the HRD field. Next, we want to encourage a critical reflection about the future of work, schooling and research in the HRD field. To accomplish this, an overview of the characteristics of the research that is performed will be given in this paper. A review of the major topics of the proceedings of the AHRD conference 1996 is presented in a manuscript by Van Hooft (1996).

Theoretical framework

In an attempt to explore the contribution of the proceedings to the goal of Academy of HRD of advancing the field of HRD we developed an analysis framework that is based on definitions and contains operationalized review criteria. The analytical framework includes the following elements: (a) the contents of the papers, and (b) the research characteristics of the papers.

Contents of the papers To explore the contents of the AHRD conference proceedings 1996 we first positioned papers into the categories based on the classification of HRD domains by the American Society of Training and Development (McLagan & Bedrick, 1983). Next, we formulated one keyword that covers the central theme of each proceeding.

HRD domains We identified three fundamental HRD domains based on the research of the American Society for Training and Development (McLagan et al., 1983): (a) individual development, (b) career development, and (c) organizational development. Individual development refers to the development of new knowledge, skills, and/or improved behaviours that result in performance enhancement and improvement related to one's current job. Career development focuses on providing the analysis necessary to identify the individual interests, values, competencies, activities, and assignments needed to develop skills for future jobs. Organizational development is directed at developing new and creative organization solutions to performance problems by enhancing consistency among the organizational structure, culture, processes, and strategies within the human resources domain (Gilley & Egglund, 1989).

Some contributions refer to developments in the field of HRD field itself and are positioned in a fourth category: field development. Research in this category is examining theories, practices and experiences of HRD professionals to support and improve the output of professionals working in the field

of HRD. For example the papers that are concerned with last year's conference theme, Integrity, are classified in this category.

Themes In each domain we could have defined a number of themes. For example: 'needs assessment' and 'program design and instruction' are part of the domain of 'individual development'. However, it was not possible to give an exhaustive list of themes up-front. We proposed to define these themes inductively. Inductive analysis means that the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis (Patton, 1990). The procedure is as follows: we examine a paper and we formulate one keyword that covers the central theme of the paper. This keyword is registered. The next paper is examined and in the list of registered keywords we look for an appropriate keyword. If we can not find a suitable keyword we formulate a new keyword. After we analyzed the 123 papers we make combinations of themes, until we reach a maximum of 15 central themes.

Research characteristics of the papers The papers that appeared on the 1996 annual conference differ in expectations, audiences, reporting methods, research methodology and quality. For example, academic research has an audience that exists of other researchers who will judge the contributions using disciplinary standards of rigor, validity and theoretical import. In contrast, other researchers publish reports for specific stakeholders who will use the results to make decisions, improve programs, and solve practical problems.

The research method employed will vary across circumstances depending on the questions one asks, and on the nature of the observation and measurement available. It is not that one approach is better than another in all cases. But essential is that the claims the researcher makes based on the data of the study are justifiable.

To describe the research characteristics of the papers we could have used the classification of the type of research as proposed by Arnold (1996). However this classification gives little information and the categories are multi-dimensional and therefore not easy to employ. Although longitudinal examination of the proceedings of 1994, 1995, and 1996 is not possible because of different classifications we proposed a new classification model. We identified seven variables that describe a broad scale of research characteristics (Black, 1993; Patton, 1990; Yin, 1989; Bernstein & Freeman, 1975; Dillon, w.d.): research purpose, research strategy, research method, data format, sampling, analysis procedure and conclusions. These seven variables describe common quality indicators that refer to qualitative and quantitative research approaches, with different purposes and research strategies.

Methodology

To explore the contents and the characteristics of the AHRD 1996 conference proceedings 123 papers were read by one graduate student. She analyzed the articles at the hand of the research model in table 1. The graduate student did not attend the conference and she used no additional data sources. She based her opinion entirely on the information described in the papers. If some information was not given in the paper it was classified as 'unidentified'. Furthermore the papers were classified on the actual research that has been executed and described in the papers. Hence, if the actual research process differed from the intended research process we classified the actual process. However, ten research projects were in progress while the papers were submitted for the conference proceedings. Some of them present preliminary findings, others only describe the intended research process. We could not describe the actual research process and had to rely on the information about the intended research process.

Domain The 123 papers were classified into the appropriate HRD domain. In a study on HRD research by Toppins (1989) institutions that have programs listed in the ASTD national academic database were asked to name the area of human resource practice that related to their research. Data showed that respondents indicated in 71 of the 135 cases more than one area. However, despite the results of this study we refrained from the possibility of selecting more than one domain by selecting the best fitted domain on the assumption that one domain will benefit most of the research outcomes.

Themes For each paper a keyword is formulated that covers the central theme of the proceeding. To obtain an overview of the themes an inductive analysis procedure is used. This way we identified different themes that are currently addressed in the proceedings.

Research characteristics To describe the characteristics of the research we used the proposed model and classified all papers accordingly. To examine the reliability of the proposed analyze framework four members of the Faculty of Educational Science and Technology of the University of Twente classified five randomly chosen proceedings. After we made some adjustments in the original model we reached an interreliability of 70% and continued the study.

Table A Research model

Variable	Coding scheme
Research purpose (Patton, 1990)	5 = basic research 4 = applied research 3 = summative evaluation 2 = formative evaluation 1 = action research 0 = unidentified purpose
Research strategy (Yin, 1989)	5 = experimental and quasi-experimental design 4 = survey 3 = archival and literature analysis 2 = history 1 = case study 0 = unidentified strategy
Research methods (free after Dillon, w.d.)	7 = interview 6 = questionnaire 5 = observation 4 = analysis 3 = review 2 = report 1 = other (specify) 0 = unidentified method
Data format	3 = quantitative 2 = qualitative and quantitative 1 = qualitative 0 = no data collected
Sampling	4 = whole population 3 = random selection from a specified population 2 = purposive sampling from a specified population 1 = volunteers 0 = unidentified group
Analysis procedure (free after Bernstein & Freeman, 1975)	4 = inferential 3 = descriptive 2 = rating from qualitative data 1 = narrative data only 0 = no systematic material
Conclusions (free after Black, 1993)	4 = appropriately drawn on data shown 3 = some lack of justification or poorly defended 2 = inappropriate conclusions for data 1 = no justification of conclusions 0 = no conclusions drawn

Limitations of the study More than 80% of the contributions is from Northern American origin. Consequently the description of the research studies presented will predominantly pertain to the Northern

American situation. Furthermore, all contributions come from members of the AHRD and therefore it is only possible to describe the situation *within* the Academy of HRD. Although there are some entries from the Netherlands, Denmark, Finland, Canada and the United Kingdom the study focuses on the American situation in the field of HRD. Furthermore it provides only insight in the situation of the *Academy* of HRD. Therefore, the results of this study cannot be generalized to the global situation of HRD. Another challenge was the inductive analysis method to formulate the central theme of the contributions. Selecting different central themes could have resulted in the selection of a different list of themes for review. Finally, papers have a maximum length of eight pages. For some researchers this meant that they had to limit their contribution and could not present all the information that was available. This may also have resulted in some bias.

Results and Discussion

Domains and Themes figure a shows that career development rated lowest in frequency addressed. Research in this domain concentrates mainly on female career development, older employees and portfolio career development. Individual development, organizational development, and field development rated highest. The main themes were: integrity, globalization, teams, employee development, learning-on-the-job, new technologies, transfer, evaluation, organizational change, training effectiveness, partnership research, and roles in HRD.

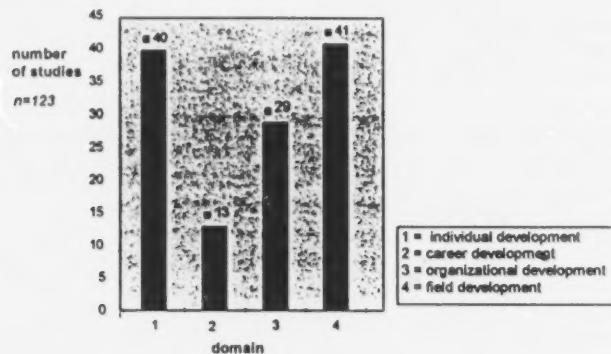


Figure A Classification of proceedings by domain

Research Purpose Most studies (52,0 %) describe the application of tools, methods and strategies of social sciences for solving HRD problems. Summative evaluation research rates second (26,8 %) which concentrates on determinating the effectiveness of human interventions and actions. Results of applied research can be used in a broader area than action research (12,2 %). Few studies concentrate on improving an existing program, policy, personnel, or product (4,9 %), and no basic research is presented. As we stated earlier equal attention for HRD theories, processes, and practices is essential for the development of a distinct body of knowledge for HRD. Basic research aims at formulating and testing theoretical constructs and propositions and is therefore required to establish a profound understanding of HRD. It is our opinion that more basic research is necessary in the near future.

To obtain more information from the data we proposed to analyze the data by domain. When we analyzed the number of studies by domain we noticed that no formative evaluation is executed in the domain of field development. Presumably, HRD professionals do not yet concern themselves with evaluation, while so much work has to be done in exploring and designing methods, tools and theories.

Research Strategy A case study and a survey are the most frequently used research strategy (respectively 35,0% and 30,1%). About a quarter (24,4%) of the papers base their results on literature or archival research. These research projects present no new data but quote, synthesize and evaluate studies or analyze concepts, terms, propositions and theories. Four papers consisted of an experimental or a quasi-experimental research strategy.

The greatest number of studies that describes a case study is in the domain of organizational development. We assume that research that is directed at developing new and creative organization solutions can only be investigated in case studies because of the specific context that influences the results of a research.

Research method Forty (32,5%) of the presented studies use more than one method for datacollection. Nearly all research projects use some kind of literature study to introduce their research and formulate the purpose of the research. If the research is not an archival or literature study we did not classify this method. For archival and literature analysis two common methods were analysis of concepts, terms, propositions or theories and review of studies. A survey contains in 95% of the cases an interview, a questionnaire or a combination of these two methods.

Popular research methods like questionnaires, interviews, and reviews are equally utilized among the four domains. In the domain of organizational development it is less usual to analyze concepts, terms, propositions, and theories. This may be due to the difficulties that arise when researchers want to compare different research settings. In the domain of individual development it is far more common to use analysis methods. This domain has been explored in more detail and therefore contains of a set of concepts, terms, propositions, and theories that can be investigated in research studies.

Data Format More than half of the studies uses only qualitative data as data format (57,7%). This includes literature research that reviews and analyses other studies. In 14 of the 123 papers (11,4 %) there is a combination of qualitative and quantitative data and 31 studies use quantitative data.

The use of qualitative data as a data format does not differ among the domains. Only research in the domain of field development uses more often than in other domains a combination of qualitative and quantitative data.

Sampling For 42 papers it was not possible to identify the sampling method. In 28 papers researchers perform a literature study. Herein we could not identify the choices that were made for the selection of specific studies or theories. Five papers represent emerging HRD journals and worksheets. The other nine papers do not specifically indicate what sampling method was used. Mostly, the studies use some kind of purposive sampling methods to gather their information (40,7%). Six papers use the whole population. And 17 papers use a random selection from a specified population.

Especially in the domain of field development many researchers base their conclusions on volunteer sampling. This sample method is not very convincing and should be avoided as much is possible or it should be investigated why those who do not volunteer choose not to participate and show that the way the study was conducted nor the variables investigated are influenced by the non-participants.

Analysis procedure 39 papers (31,7 %) gather only narrative data. The data is presented in the form it was collected, without any quantitative analysis. Other studies (28,5 %) quantify there qualitative data by rating them. In ten cases, though not always clearly stated, a hypothesis is rejected or not rejected. In these cases researchers find some kind of correlation between two or more variables.

Conclusions Conclusions are in 52,0 % cases tightly related to the results of the study. Eleven proceedings do not present any conclusions (8,9 %). Partly these studies are not yet completed. The rest of the papers do not present any conclusions or give no justification of the conclusions. The distinction between inappropriate conclusions and lack of justification of poorly defended conclusions is not always clear. But researchers sometimes state conclusions that seem to appear out of the blue (4,1 %).

Mainly research on the domain of field development presents no conclusion or gives no justification. This is partly a result of the qualitative data format and data analysis methods that have been used. This kind of research is descriptive in nature and it is difficult to state one or more conclusions that cover the contents of the study.

Conclusion

It must be remembered that research is a continuing process, social science research rarely produces earth-shaking discoveries, and every researcher builds on the work of others, no matter how imperfect it may be (Black, 1993). This study is a small step in developing a distinct body of knowledge for HRD. It provides information that other scholars can use to discuss the boundaries of HRD and to reach consensus on the

delimiter. Because HRD is an interdisciplinary field representing different perspectives, synthesizing the research studies of the AHRD into a body of knowledge can contribute to HRD practice and research.

From the previous chapters it becomes apparent that the field of HRD has to deal with certain tensions between different viewpoints. It is not the aim of this study to reduce these tensions, but to illuminate them to sensitize members of the AHRD to the ways they view their profession and the future of their workfield.

Theory versus practice Consistent with the theme of the conference of 1996 this research aimed at describing the integrity of research papers based on a list of considerations that make sense for all research papers. Jacobs (1996) defines integrity as a judgement about the adequacy of our professional actions based on comparing what is actually done and what is called for in the HRD process. As we stated earlier research studies differ in expectations, audiences, reporting methods, research methodology and quality. What is called for in research papers depends largely on the question one asks, and the nature of the observation and measurement available. One research approach is not better than another in all cases, but one approach may be better suited for a particular problem than the other (Arnold, 1996).

The Academy of HRD (AHRD) continues to struggle to answer the dilemma of what some perceive to be a dichotomy between theory (research) and practice. Argument is quite lively over whether that research should be based in the empiricists/positivist tradition or in the interpretivist/phenomenological one. In the positivist tradition one uses quantitative and experimental methods to test hypothetical-deductive generalizations. Phenomenological inquiry uses qualitative and naturalistic approaches to inductively and holistically understand human experience in context-specific settings (Patton, 1990).

Leaving the discussion to sensitize researchers to the ways in which their methodological preferences may reduce their methodological flexibility and adaptability, the AHRD must support a pragmatic approach that does not encourage one tradition versus the other tradition. The AHRD must encourage 'methodological appropriateness' as the primary criterion for judging methodological quality. Therefor the AHRD will have to advocate a wide range of research methodologies, including both quantitative and qualitative approaches.

While fundamental scientific research contributes to research and theory in the field, HRD is increasingly being pressured to conduct research that is more 'relevant and meaningful' to the concerns and the need of society (Dirkx, 1996). The question is who defines these needs, in whose interest are they being pursued (for example client or researcher), and what is meant by relevant and meaningful. This will continue to be the subject of debate and discussion within the AHRD. However, if HRD is to be taken seriously by either industry or academia, then it must fulfil the obligation to increase the foundation of knowledge in a rigorous and credible manner.

Laboratory versus field research When Marsick (p.6) tries to develop a code of conduct for HRD professionals she remarks that professionals face much more subtle challenges tied to smaller daily decisions. The field of HRD is too complex to do research in a laboratory situation where we can concern ourselves with all aspects of people's development.

Yet, some HRD professionals claim that research is only valuable when it holds scientific relevance and is based on quantitative data from a large population with all variables identified and controlled. Examples of this kind of research are large survey and (quasi-) experimental research strategies. The proceedings describe a vast amount of survey research, but the data of these research studies cannot always be generalized beyond the respondent group, because of sampling methods and low response rates. Moreover, the results of a laboratory study have probably little value for the work of HRD professionals because they have to operate in a complex environment.

One important way to strengthen a study design is through triangulation. Patton (1990) describes methodological triangulation as the use of multiple methods to study a single program or problem. This can mean using several kinds of methods or data, including both quantitative and qualitative approaches. Using a combination of methods can reveal different aspects of empirical reality, and increases validity as the strengths of one approach can compensate for the weaknesses of another approach. Numerous research studies, especially in the domain of field development presented in this year's conference use more than one method for data-gathering. But the different methods are mostly used to describe different aspects of the object being investigated instead of investigating the same aspect with several methods.

Further research This study described the content and the research characteristics of the papers that are included in the AHRD proceedings of 1996. Cautiously we have made some remarks about the

quality of the papers. We concluded that for the development of the field of HRD 'methodological appropriateness' is the primary criterion for judging methodological quality. Therefore the AHRD will have to advocate a wide range of research methodologies, including both quantitative and qualitative approaches. It is interesting to examine what constitutes methodological quality. Further research that explores quality indicators of research or a code of conduct to perform research could be of great interest for researchers.

Furthermore it would be interesting if this study is repeated over several years. This longitudinal investigation gives a broader understanding of the developments in the field than a one-time investigation like this study.

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A Survey of Surveys on Training

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The Global 100 plans an annual report on HRD to facilitate linking HRD practice with theory and research. To avoid duplicating other studies, a survey of existing surveys was undertaken. It identified the need for (1) an annual survey using high quality survey research methods, (2) a longitudinal survey of organizations, (3) a longitudinal survey of individuals within organizations, (4) a survey comparing multiple perspectives within an organization, and (5) a survey of multi-national firms.

The Academy of Human Resource Development (AHRD) *Global 100* is a unique group of worldwide leaders in Human Resource Development (HRD) who are dedicated to linking practice to HRD research and theory. As part of its mission, the *Global 100* will devise an annual agenda as a strategy that serves as a catalyst for one aspect of the mission of the AHRD -- that of enhancing member participation in the application of HRD research findings and practices through scholar-practitioners partnering with corporations. One part of the 1996 annual agenda of the *Global 100* involves initial work on a survey in order to develop an annual report on HRD.

Rather than create yet one more survey on HRD, the *Global 100* decided to begin by reviewing previous surveys. This review will examine both content and methodology. The review will determine what content is adequately covered in other surveys and what gaps exist in terms of content. Similarly, with regard to methodology, the review will determine which data-gathering and analysis methods appear effective and which lead to some skepticism about the reliability and validity of the results. The outcome of this review will help to determine the direction for future surveys undertaken by the *Global 100* and by other AHRD members.

Research Questions

What surveys of HRD have been undertaken within the past six years? What were the objectives or problem statements of these surveys? What information did each survey yield? What methods were used to gather and analyze the data for each survey; and how effective were these methods? Finally, what gaps still remain in data needed on HRD?

Methodology

This research began with a scan of the literature using computer databases available on DIALOG. In addition, we contacted the American Society for Training and Development (ASTD) for additional recommendations.

The surveys and reports, identified through the above sources, were obtained and reviewed. In certain instances, we received copies of the data files and code books. This permitted closer examination of the data records.

Results

Rather than duplicate similar work undertaken by ASTD, I will simply make use of information that they have compiled. *The ASTD Training Data Book* (1997) provides a comprehensive review of past research on training expenditures and human performance practices. Appendix I from

that publication, titled "Sources of Data on Training," provides a listing of surveys on training. These

are separated into categories labeled "Major Data Sources" and "Special Interest Surveys." "Major data sources" refers to studies for which the raw data are available for reanalysis. In addition, many of these are conducted by the federal government or through funding from the federal government; and, furthermore, analyses of these data sources are typically reported in academic journals. In contrast, "special interest surveys" tend to be conducted by associations or private companies. Figure 1 lists the information provided about these surveys in *The ASTD Training Data Book*.

Major Data Sources	Special Interest Surveys
Name	Name
Source	Source
Year(s) (Month(s)) Conducted	Year(s) (Month(s)) Conducted
Year(s) (Month(s)) for Which Data Were Collected	Year(s) (Month(s)) for Which Data Were Collected
Survey Method	Survey Method
Number of Cases	Number of Cases
Response Rate	Response Rate
Population	Population
Unit of Analysis	Unit of Analysis
Focus	Focus
Studies Conducted and Summary Articles	

Figure 1. Types of Information Available in Appendix 1 of *The ASTD Training Data Book* (1997).

One of the critical differences between the two categories identified in the ASTD publication is that of response rate. The surveys considered as "major data source" tended to have relatively high response rates, ranging from 59 percent to 74 percent. Note that one survey by the Small Business Administration had a response rate of only 36 percent. In contrast, the surveys falling into the "special interest" category tended to have lower response rates, ranging from 14% to 40%.

Since *The ASTD Training Data Book* provides details on each of the surveys, the remainder of this paper will describe some of the more significant surveys. For this purpose, I will distinguish the surveys into the following two types: (1) annual or periodic surveys and (2) one-time surveys.

Annual or Periodic Surveys. Only three sources of annual information regarding training currently exist and are listed in Figure 2 below. The following paragraphs provide further details on these surveys.

Survey Name	Survey Focus, Method, and Response Rate
Training Magazine / Lakewood Survey	Basic data on training gathered primarily from subscribers to <i>Training</i> magazine, gathered through mailed questionnaires. Typical response rate of 15%.
ASTD National HRD Executive Survey	Data on training, staffing, and training expenditures, primarily gathered via mailed questionnaires from HRD executives in the Fortune 500 and other private companies. Typical response rate of 30% to 50%.
National Household Education Survey: Employment-Related Adult Education	Data on employment-related education activities, gathered through telephone interviews. Typical response rate of 59% to 69%.

Figure 2. Basic Information on Annual Or Periodic Surveys Of Training.

Training Magazine / Lakewood Survey: This annual survey, conducted by Lakewood Research as a part of Lakewood Publications, gathers several basic data on training, including training budgets, training recipients, types of training, sources of training, and instructional methods or media. The sample focuses primarily on subscribers of *Training* magazine, as well as those identified as being from organizations with 100 or more employees. Several different questionnaires are sent by mail. Although some follow-up is conducted, the response rate remains at about 15%. The total number of respondents ranges from about 1100 to 2600. No formal analysis of the impact of non-response bias is undertaken.

ASTD National HRD Executive Survey: This annual survey focuses on gathering data on training, including staffing and training expenditures, as well as other topics of interest. The population for the sample comes from Fortune 500 and private corporations. The survey is typically mailed to almost 300 HRD executives, and the response rate ranges between 30% and 50%.

Adult Education (AE) component of the 1991 and 1995 National Household Education Survey (NHES:91) and (NHES:95): This survey focused on gathering data regarding participation in adult education, main reasons for taking the course, and the provider of the instruction. [Note that this survey replaces the Survey of Adult Education, undertaken as a supplement to the May Current Population by the Bureau of the Census, in 1981, 1984 and 1987.] A broad definition of adult education was used, which included: (1) persons enrolled full-time or part-time in a college, or in a vocational or occupational program, (2) those taking continuing education or noncredit courses, correspondence courses, or tutoring, as well as (3) those taking courses or participating in other educational activities provided by employers, community groups, and other providers. The NHES was the first major attempt by the National Center for Education Statistics (NCES) to go beyond its traditional school-based data collection systems to a household survey. Since the procedures were somewhat similar in each of the two survey years, the 1991 a more thorough description of the 1991 survey is provided.

The survey, conducted by Westat, Inc., was field tested in 1989, and data for the full-scale study were collected between late January and early May of 1991. The NHES:91 was conducted using computer-assisted telephone interviewing (CATI) technology. The Mitofsky-Waksberg procedure for random digit dialing was used, which yielded a sample in which each household had an approximately equal probability of selection. Of the numbers identified as residential, 60,322 participated (or 83.6%) while 11,901 (or 9.8%) did not participate. The total

number of completed interviews was 12, 568, which included 9774 participant interviews and 2794 nonparticipant interviews. Thus, the survey achieved a relatively high participation rate. The estimation or weighting procedures included adjustment of the estimates to independent totals from the March 1991 Current Population Survey undertaken by the Bureau of the Census. A hot-deck or nearest-neighbor procedure was used to impute missing responses.

One-Time Surveys. Multitudes of one-time surveys have been conducted by the federal government, various associations, and private organizations. Figure 3 provides some basic information on a recent, important survey undertaken by the Bureau of Labor Statistics of the U.S. Department of Labor, as well as some surveys not included in *The ASTD Training Data Book*. This is followed by more detailed descriptions of these surveys.

Survey Name	Survey Focus, Method, and Response Rate
Employer-Provided Formal Training Survey	Data on hours of training, training activities, and training expenditures, gathered from private, non-agricultural establishments with at least 50 employees. Response rates of 66%, 71%, and 74%, depending on the form of the survey.
Survey of Senior Executives View of Training	Data on senior executives' views of training. Response rate is not reported.
Study on Evaluating the Effectiveness of Training	Data on how line managers and human resource executives evaluate the effectiveness of training. Response rate is not reported.
Training Materials Market Study	Data on changes in the training function, forms of training, and key trends. Response rate is not reported.

Figure 3. Basic Information on Selected One-Time Surveys.

Employer-Provided Formal Training Survey, undertaken by the Bureau of Labor Statistics of the U.S. Department of Labor: This survey measured three different aspects of training: (1) the average number of hours of training per employee, (2) the average number of training activities per employee, and (3) expenditures per employee in four selected spending categories. The 1995 survey was carried out over a six-month period, from May 1995 through October 1995. Two survey instruments were used -- a questionnaire and a training log. During a personal visit, field economists administered the employer questionnaire to the selected respondent. The training log was administered by the field economist or was left with the employer to complete during the following two weeks. The sampling was focused on businesses with 50 or more employees. Of the 1543 corporations selected, 1433 were eligible for survey participation. Usable employer questionnaires were collected from 1062 of the respondents, for an adjusted response of 74.1%. Usable employer logs were collected from 949 respondents, for an adjusted response rate of 66.2%. A weighting class non-response adjustment procedure was used, along with a hot-deck procedure to impute missing data.

Instructional Systems Association Study of Senior Executive's Views of Training: This 1994 study focused on senior executives with line management responsibility, having responsibility for employee training and/or development and employed by companies totaling 1,000 or more employees. It consisted of two parts: (1) focus groups conducted in Elmsford, New York and San Francisco, California, and (2) in-person interviews with 50 executives, located

in Atlanta, Boston, Chicago, Dallas, Denver, New York, or San Francisco. The focus group discussion included questions regarding "big issues" facing the company; strategies employed to achieve growth and profitability; most critical "people" issues; what "training" means, along with positive and negative associations; the importance of training to the organization and to the person; the process through which training was implemented; and future orientation to training and its implementation. The in-person interview asked about critical issues facing the company, the impact of these critical issues on the people in the organization, the most-valued-employee qualities, the role played by training, attitudes toward outside training firms, and factors in selecting a training firm. The study report does not provide details on the response rate nor on procedures to adjust for non-respondent bias.

Instructional Systems Association Study of Evaluating Training: This 1995 study focused on gathering data from senior line managers and human resources executives who have authority regarding people issues and training plans. All respondents were employed by companies totaling 1,000 or more employees. It consisted of two parts: (1) two focus groups, and (2) in-person interviews with 20 human resources executives and 32 line managers. The study investigated the role of training, the types of training activities, the existence of a formal, structured way to evaluate training, and the evaluative methods used for selecting training programs. The study report does not provide details on the response rate nor on procedures to adjust for non-respondent bias.

Training Media Association Training Materials Market Study: This one-time survey asked questions concerning changes in the corporate training function, types of training media used and changes in these media, and key trends in training. A total of 105 telephone and e-mail interviews were conducted with training and human resources managers from both corporations and government, as well as executives and line managers from these organizations. Only one person refused to participate in the study.

Gaps That Currently Exist and Recommendations for Action

As can be seen from this brief overview of the various surveys and data sources on training, few annual surveys on training currently exist. In addition, few surveys of any type use rigorous survey research methods. By rigorous survey research methods, I am referring to the use of methods designed to obtain a high response rate. Furthermore, once having obtained a high response rate, few surveys undertake testing and correction for non-response bias. Finally, few surveys determine whether the respondent is providing reliable and valid data. This means that much of the so-called "data on training" may be wildly inaccurate. The following are some suggestions for overcoming this bleak picture.

1. **Annual Survey Using High Quality Survey Research Methods.** An annual survey on training, rather than a periodic survey, is desperately needed. Such a survey needs to use methods that ensure a high response rate. A high response rate can be obtained through the judicious use of incentives, as well as the use of more personal data collection methods, such as telephone or in-person interviews. Having obtained a reasonable response rate, the survey researchers will still need to test for non-response bias. If such testing reveals differences between the respondent and non-respondent groups, then appropriate methods should be used to impute missing data.
2. **Longitudinal Survey of Organizations.** None of the surveys have been undertaken as a longitudinal study. As a result, we simply have an inaccurate picture of the present. Of greater importance to those in human resources, as well as other functions within organizations, is some information on the short-term and long-term impact or outcomes of various human resource and training initiatives. Only by examining such initiatives over time can any of us determine what leads to greater or lesser effectiveness.
3. **Longitudinal Survey of Individuals with Organizations.** None of the surveys have followed individuals within organizations over time. In addition to examining

impacts or outcomes on organizations, it is critical to determine impacts r outcomes on individuals. When examining individuals over time, a combination of cross-sectional and longitudinal methods should be employed to examine the separate effects of cohort, time, and intervention (e.g., Schaie, 1996).

4. **Survey Using Multiple Perspectives.** Few of the surveys gather information from more than one person within the organization. Knowledge of training expenditures or even perspectives on the outcomes of certain human resource development practices may be the same or may be different. Further studies comparing different respondent groups can add much to our understanding.
5. **Survey of Multi-National HRD Initiatives Implemented in Multi-National Firms.** Many of these surveys gather data from multi-national firms, but none examine the implementation of HRD initiatives within the context of multi-national firms and the multi-national context.

The list given above provides some suggestions for future research. Furthermore, the suggestions can be used individually or can be combined. Research following any or all of these suggestions will provide an important contribution to the knowledge base regarding HRD.

How This Research Contributes to New Knowledge in HRD

The focus of this review is upon survey research that already exists. Dissemination of such information should prove useful to both practitioners and researchers. Practitioners can use the survey data to inform their practice. Researchers can use the survey data to plan future efforts. Of greatest importance is that this review will attempt to identify gaps in the current available survey research to help pinpoint needed topics of future research in HRD. Such gaps can then be filled by initiatives, such as that being undertaken by ASTD and described in greater detail by Bassi and Benson (1997), as well as through an initiative sponsored by the *Global 100*.

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Training and the Decade of the 1980's: Did We Spend What We Said We Were Spending?

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This paper examines the way in which training budgets have changed between 1982 and 1992 in four important American industries. The findings suggest that, while training budgets are low relative to sales and payroll measures, there are wide differences in the way in which individual industries have budgeted for the training of their workers through time and such variations may have significant implications both for the delivery of industrial output, sales of goods and services, and the welfare of our citizenry.

The role of training has long been viewed as primary in human resource development. In fact, many have argued that the role of training is so important that we need to see expanding numbers of dollars spent on preparing workers for entry into and maintenance of their positions in the world of work. Some have even gone so far as to contend that the volumes of dollars expended on training have long been in a rising trajectory and that that trajectory must continue.

In what follows, we ask whether these contentions are correct or is there something else going on. While the evidence, from a diverse array of sources, is basically supportive of the above positions, there are surprising results revealed.

One Larger Perspective

The assessment of training expenditures is of great interest to the field of human resource development but there are substantial limitations on obtaining the appropriate information to answer questions on the cost impact of training. There are not, to the best of our knowledge, any widely available data sources which allow the direct testing of training budgets relative to other unrelated but important industry variables. This study is a report on one beginning effort to close this information gap.

The true rationale for such an investigation derives from the widely accepted proposition that improvements in job/work performance derive from investment in human capital (Becker, 1975) which makes workers more proficient in their work endeavors. It is that work which first raised profound questions about who pays for training and how much.

The specific inquiry undertaken here involved a comparison of data for 1982, 1987, and 1992, from three different sources. Data on training budgets were obtained from the series on training type, patterns, format, and budgets published in October of each year by Training Magazine. These data report on annual firm and industry training budgets for firms of 100 employees or more.

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These data were juxtaposed against two types of data from the U. S. Department of Commerce. From the Bureau of the Census we obtained censuses of Services, Manufacturing, Retail Trade, and Wholesale Trade which report on sales or revenues (value added and value of shipments for manufacturing), employment, and payroll for firms of 100 or more employees also on an annual basis. From the Bureau of Economic analysis we utilized national product and income accounts which provide for the measurement of industry specific variables on output in both current dollar, or nominal amounts, and in constant dollar, or real amounts...in this case constant 1982 dollars...to account for the effects of inflation.

The purpose of these data combinations was to provide a more complete comparison than was available elsewhere. The censuses allow comparison of training costs standardized in relation to the importance of the industry in the economy and the national income account data provide a comparison of industry "intent" with respect to spending on training efforts.

Methodology and Findings

To date data on four industries have been obtained for analysis where information on comparable bases is available. These are Wholesale and Retail Trade, Health Services, Business Services, and Manufacturing. The data available for comparison were limited to the years 1982, 1987, and 1992. These periods are necessitated by the fact industry censuses are taken only every five years.

Training magazine data on training budgets of firms of 100 or more employees provide detailed description of the type, form, and nature of training programs. The data from individual Bureau of the Census industry censuses are sales volume, employment, and payroll broken down by firm size groupings. Aggregation of the individual firm classifications provides for assessment of firms of 100 employees and over.

These data can be further combined to provide estimates of the average amount budgeted per employee for each industry. The planned expenditure data come from Training and the numbers of employees from the respective industry censuses.

The national income accounts data provide, for each industry, a measure of output/sales for each of the industries considered here. The sales volume however, is a report which actually includes two components--price and quantity. These accounts also provide a measure of the real output of the industries, a measure which extracts the price changes which occurred in combination the output changes in the industry. By calculating the relation between nominal output and real output for each of the relevant years, it was possible to obtain industry specific deflators to adjust training budgets on an industry particular basis. The findings are reported in *Table 1*.

The first conclusion to be drawn from *Table 1* is that training budgets as a percent of either payroll or sales are relatively small...which seems to be the conventional wisdom. The largest ratios were for health services in 1982 and manufacturing and business services in 1992. In no case was the payroll relative any higher than five percent and in half of the cases it was below two percent. Similarly, with respect to sales or revenues, the proportions were below one percent for twelve of the measures (noting the double measures of this variable for manufacturing) and in no case did they exceed two and one-half percent. The dollar comparisons by industry are also of interest.

Wholesale and Retail Trade Those sectors which are involved with the sale and transfer of goods showed both relative and absolute increases in budgets for training. These patterns doubtless reflect the increasing use of technology to record orders, sales, transfers, and delivery of merchandise and the training which must be supplied to use that technology. Of note is the fact that, while current dollar budgets for training tripled in the 1982-92 decade, they rose by almost the same relative amount in absolute or real terms. Wholesale and retail trade appear to have been serious about training in this decade.

Table 1. Training Budgets by Industry Classification as Percentages of Payroll and Sales/Revenues, Firms of 100 or More Employees, Together with Dollar Expenditures per Employee: Four Industries: 1982, 1987 and 1992

Industry Classification	Training Budgets as a Percentage of:			Dollar Cost Per:	
		Payroll	Sales/Revenue	Employee (Current)	Employee (Real, 1982=100)
Wholesale and Retail Trade	1982	1.61%	0.09%	\$ 91	\$ 91
	1987	2.24	0.14	168	150
	1992	2.36	0.28	317	270
Health Services	1982	4.88%	2.30%	\$ 525	\$ 525
	1987	1.99	0.92	369	262
	1992	1.58	0.69	395	180
Business Services	1982	1.61%	0.68%	\$ 206	\$ 206
	1987	2.24	0.99	310	242
	1992	3.67	1.58	678	359
Manufacturing	1982	1.15%	0.40%* 0.20%**	\$ 238	\$ 238
	1987	1.62%	0.60%* 0.27%**	\$ 421	\$ 419
	1992	3.53%	1.22%* 0.57%**	\$ 1.455	\$ 1.161
NOTE: Some values used in calculations are preliminary and subject to revision. *: As a percentage of Value Added in Manufacturing. **: As a percentage of Value of Shipments: not equal to Sales because of double counting due to intra-firm shipments. Sources: See references.					

Business Services Business services' budgets also grew over this decade, approximately doubling with respect to payroll and sales. What is interesting is the way these budgets changed on a dollar cost per employee basis. They went up by a multiple of over three times between 1982 and 1992 in current or nominal dollars; but they less than doubled in real terms. What this is saying is that prices in this industry were rising so fast that their increases cut back on the real worth of training budgeted for workers. Put differently, the effort at training in business services may have been mitigated by the real costs of conducting business.

Manufacturing For manufacturing the picture is more complicated to describe because the output or sales concepts are different. Sales/revenue figures are not reported for manufacturing because inter-plant and inter-company sales are so common that any measure of "sales" would be misleading.

For that reason, two other measures of output are used: Value Added and Value of Shipments. The first of these looks at what additional value a manufacturing concern contributes to a product (i.e., approximately revenue minus all costs) and the second looks at what got put out the front door even though it may come back at a later stage in the manufacturing sequence for further stages of processing.

We find that, early on, manufacturing did not budget very much for training but in the last five years of this decade more than doubled the relative shares—compared to value added, shipments, or payroll—intended for training. This latter growth probably reflects the growth of technology—including robots and CAD/CAM—which has become more prevalent in American manufacturing.

On a per employee basis, we see the largest growth in budgets among these four industries occurring in manufacturing. The growth in nominal budgets was more than six times over the decade, far more than any of the other industries examined here. Even in real or constant dollar terms, the level of manufacturing training budgets was almost five times as large per employee in 1992 as it was in 1982, reflecting in part the stable prices in this industry.

This pattern also seems to have resulted from a decline in light manufacturing in this country, with much of this activity going off-shore, and a concentration in higher tech production which requires more skills and returns more to the organization because of the greater levels of human capital brought to the job by employees. Another sector which was serious about training over this decade.

Health Services A discussion saved for last because of its results, this industry actually indicates a *decline* in all measures of training budgets over the 1980's, a quite anomalous result from some vantage points. Compared to payroll or revenue, by 1992 training budgets shrunk to one-third their levels at the start of the decade with most of that decline coming early in the period.

The reduction in training budgets is also quite evident in the per employee budgeting. Budgeted training, on a current dollar basis, fell by a quarter between 1982 and 1992 and actually was 30 percent lower in the middle of the period. In real terms, moreover, the decline was even more dramatic, with declines of about one-half in 1987 and by over 60 percent by 1992.

It is difficult to come up with a good explanation as to what this is about. The suggestion is that two factors are responsible for this. The first is that the growth of new—and apparently smaller sized—participants in this industry has meant that there are many new employers who cannot afford to give training to their employees. A second contributing factor is likely to be from employers, even the best, shifting the responsibility for training from themselves to the individual employee. Since many workers in health care need to be licensed to maintain their employment, and continuing education is necessary for the license, the budget conscious employer can shift the responsibility for training to those who must have it to remain gainfully employed. The dollar cost of this form of training is not included in the published data available currently.

Summary and Conclusions

The object of this exercise was exploratory; several additional industries are to be examined as well as this work continues. But what is interesting is that the data reveal patterns which at the same time are both consistent with and in conflict with our perceptions about what was happening in the world around us. We would have anticipated the size of training budgets to have increased in the 1980's--that was the conventional wisdom--and we found that in general they indeed did grow.

However, we also found numbers which confounded our expectations by falling over time. The evidence for the health care sector raises profound questions about the sources and nature of training in a crucial industry and one which is certainly to become even more so as the population ages.

Despite the discussion above, we would caution that the reader look at the *changes* which are evident in all of these numbers and not necessarily concentrate on the dollar levels reported. Each of us knows the difficulties associated with point estimates of any variable and they certainly apply here. It is the trend which is important for that points us in a direction of progress or retrogression; any absolute numbers only reflect crude estimates of way-stations along that likely erratic path.

It also must be noted in studying these numbers that there may be differences between national interests--or academic interests--and industry interests and those would be reflected here as well. Does the belief that training budgets should be increasing over time arise from the conviction that the nation should be one which is better educated as it matures...or that we can gain both professionally and personally from encouraging or offering training as an answer to the economy's needs? In either of these cases, the real issue may be how a particular industry best faces its needs in the human capital arena, regardless of how that effort is viewed and judged by those observing from the sidelines.

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